

United States Court of Appeals for the Federal Circuit

99-1584, 00-1005

INSITUFORM TECHNOLOGIES, INC.,
INSITUFORM (Netherlands) B.V., and
INSITUFORM GULF SOUTH, INC.,

Plaintiffs-Cross Appellants,

v.

CAT CONTRACTING, INC.,
FIRSTLINER U.S.A., INC., and GUILIO CATALLO,

Defendants-Appellants,

and

MICHIGAN SEWER CONSTRUCTION COMPANY,

Defendant-Appellant,

and

KANAL SANIERUNG HANS MUELLER GmbH & CO. KG,

Defendant-Appellee.

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On remand from the Supreme Court of the United States

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Defendant-Appellee.

DECIDED: October 4, 2004

Before MAYER, Chief Judge, MICHEL, and SCHALL, Circuit Judges.

SCHALL, Circuit Judge.

Defendants Cat Contracting, Inc. (“CAT”), Firstliner U.S.A., Inc. (“Firstliner”), Giulio Catallo (sometimes referred to as “Catallo”), and Michigan Sewer Construction Company (“MSC”) (“defendants”) appeal the judgment of the United States District Court for the Southern District of Texas holding them liable for infringement of United States Patent No. 4,366,012 (“the ‘012 patent”) and awarding plaintiffs Insituform Technologies, Inc. (“Insituform Technologies”), Insituform (Netherlands) B.V. (“Insituform Netherlands”), and Insituform Gulf South, Inc. (“Insituform Gulf”) (“plaintiffs”)

damages for that infringement. Insituform Techs., Inc. v. Cat Contracting, Inc., No. H-90-1690, slip op. (S.D. Tex. Aug. 31, 1999) (“District Court Opinion”). Defendants also appeal the joinder of Insituform Netherlands as a plaintiff. Id. at 21-22. In addition, CAT, Firstliner, and Catallo appeal the district court’s joinder of Catallo as a defendant. Insituform Techs., Inc. v. Cat Contracting, Inc., No. H-90-1690, slip op. at 9 (Aug. 30, 1999) (“Joinder Order”). For their part, plaintiffs cross-appeal the ruling of the district court declining to hold defendant Kanal Sanierung Hans Mueller GmbH & Co. KG (“KS”) vicariously liable to plaintiffs under an alter-ego theory of induced infringement. District Court Opinion, slip op. at 44-45.

We affirm the judgment of infringement with respect to all defendants. We also affirm the district court’s joinder of Insituform Netherlands as a plaintiff, its joinder of Giulio Catallo as a defendant, and its ruling declining to hold KS vicariously liable for induced infringement. However, we vacate the judgment that the infringement of CAT and Firstliner was willful and remand for further proceedings on the issue of willful infringement. We also vacate the district court’s damages award and remand for further proceedings to determine damages based on when defendants ceased selling the pipe repair process that was found to infringe the ‘012 patent. Accordingly, we affirm-in-part, vacate-in-part, and remand.

BACKGROUND

I.

Underground pipes, such as sewer pipes, are often subject to great stress. As a result, over time, the pipes develop cracks and other structural defects, which can result in leakage. In the past, the only way to rehabilitate a section of underground pipe was to dig up the broken section and replace it. Eric Wood, the sole inventor named on the ‘012 patent, pioneered a process for rehabilitating underground pipe without digging it up.

The ‘012 patent discloses Wood’s invention. The patent relates to a method for performing pipe repair without removing the damaged pipe from the ground. The method involves installing a liner into

the pipe. Claim 1 of the patent, the only claim at issue, claims a process for impregnating a flexible tube liner with resin prior to insertion of the liner into a damaged pipe. The liner has an impermeable film on the outside and a resin-absorbent, felt layer on the inside. A vacuum is applied to the inside of the liner by cutting a window into the outer, impermeable film, applying a cup (a “vacuum cup”) to the outside of the window, and connecting the other end of the cup to a vacuum source. Using the created vacuum, a section of the inside of the liner is impregnated with resin, which is drawn through the liner. The vacuum cup is then moved to another section of the liner while the previously used window is sealed. This process for impregnating the liner with resin allows for impregnation at the jobsite, eliminating the need to transport a heavier, already impregnated liner to the site.

II.

This case has a lengthy procedural history. The issues before us arise from a complex series of trials, appeals, and cross-appeals that now span nearly fourteen years. We briefly review each significant decision in turn.

A. Plaintiffs’ suit for patent infringement

The original defendants in this action were CAT, Inliner U.S.A., Inc. (“Inliner”), MSC, and KS. Inliner subsequently changed its name to Firstliner U.S.A., Inc., and we refer to this defendant as Firstliner throughout. Firstliner and CAT are in the business of rehabilitating and restructuring various types of pipes, including sanitary, storm sewer, water main, conduit, and industrial pipe. District Court Opinion, slip op. at 5. Firstliner oversees the marketing of its trenchless procedure for pipe rehabilitation to potential licensees. Id. In addition, Firstliner manufactures pipeliners and related materials, which it sells to CAT and its licensees. Id. CAT is responsible for marketing, bidding for, and negotiating contracts with customers and managing its pipeline rehabilitation contracts. Id. Giulio Catallo, who was subsequently added as a defendant, is the individual principal of both CAT and Firstliner. MSC is also in the pipe rehabilitation business. CAT was involved in a joint venture with MSC for performing the accused processes.

KS is a German sewer rehabilitation company owned by Hans Mueller. After reading about KS's proprietary sewer rehabilitation technology in a trade magazine, Giulio Catallo contacted KS to obtain a license for that technology. *Id.* Catallo subsequently acquired the rights to use the accused processes from Kanal Mueller Gruppe International GmbH & Co. ("Gruppe"), a German export licensing company also owned by Hans Mueller. Although KS stated in a letter written on November 10, 1989, that CAT was a "qualified Licensee for our KM-INLINER sewer relining process for the territories of the USA," there was no formal license agreement executed by the parties. *Id.* at 6. An actual license agreement, however, was later executed between Gruppe and Firstliner, permitting CAT's use of the accused process. *Id.* This license agreement stated that "[t]he licensee has been informed of a threat of a possible claim for infringing the INSITUFORM method." *Id.*

The original accused process used by defendants—referred to as the "Multiple Cup Process" or "Process 1"—was a method of tube liner impregnation involving the serial application of vacuum cups. In Process 1, from four to six cups were used to draw a vacuum from a corresponding number of slits in the tube liner. As a result, when the cup closest to the advancing resin was removed, and its slit was sealed, the remaining downstream cups continued to draw a vacuum in the tube liner.

At some point in either 1991 or early 1992, on the advice of counsel, defendants switched to an alternate process. In the alternate process—referred to as the "Multiple Needle Process" or "Process 2"—the multiple cups were replaced with multiple metal tubes, known as needles. In Process 2, the needles are inserted through the layers of the impregnated tube liner, rather than merely placed over holes in the wall of the liner. Defendants did not develop Process 2 until after the first phase of the case had already been tried to a jury.

The original action for infringement of the '012 patent was brought in February 1990. The original plaintiffs were Insituform of North America, Inc.; Insituform Licensees, B.V.; and Insituform Gulf. Insituform Licensees, B.V. was the owner of the '012 patent at the commencement of the suit. As explained more fully below, Insituform Licensees, B.V. subsequently assigned the '012 patent to Insituform Netherlands, along with the right to sue for past infringement. Insituform Netherlands was

thus eventually substituted for Insituform Licensees, B.V. as a plaintiff. Insituform Technologies, Inc. (“ITI”) is the parent company and administrative headquarters for the Insituform organization, including Insituform Gulf. *Id.* at 4. Insituform Gulf is authorized to do business in Louisiana, Mississippi, and Texas and licensed to perform Insituform technology in designated regions throughout the United States.^[1] *Id.* at 5. Insituform of North America, Inc. is no longer a party to the suit.

Only claim 1 of the ‘012 patent was asserted at trial. It recites

1. A method of impregnating with a curable resin an inner layer of resin absorbent material disposed in an elongate flexible tube having an outer layer formed by an impermeable film, the method comprising the steps of

(1) introducing into one end of the elongate tube a mass of the curable resin sufficient to impregnate the entire resin absorbent inner layer of the tube,

(2) forming a window in the impermeable outer layer of the tube at a distance from said one end of the tube,

(3) drawing through the window a vacuum in the interior of the tube downstream of said one end by disposing over the window a cup connected by a flexible hose to a vacuum source which cup prevents ingress of air into the interior of the tube while the tube is being evacuated, the outer layer of the tube being substantially impermeable to air,

(4) beginning at or near the end at which the curable resin mass was introduced, passing the tube between squeezing members which force the resin to flow towards the region of vacuum application as the tube progresses through the squeezing members,

(5) when the resin reaches the vicinity of the region of vacuum application, removing the cup and sealing the window,

(6) providing another window in the impermeable layer of the tube downstream of the previously formed window,

(7) drawing through the new window a vacuum in the interior of the tube while progressively moving the tube through the squeezing members to force the resin to flow toward the new region of vacuum application, and

(8) repeating steps 5, 6, and 7, where necessary to impregnate the entire resin absorbent inner layer of the flexible tube.

‘012 patent, col. 6, l. 37 – col. 7, l. 6.

The case was first tried to a jury in June 1991. The jury returned a verdict that the ‘012 patent was not invalid and was infringed, both literally and via equivalents, by Process 1, the only accused

process then at issue. The district court granted defendants' motion for judgment notwithstanding the verdict ("JNOV") with respect to literal infringement and ordered a new trial as to infringement under the doctrine of equivalents. In June 1994, the case was reassigned to a different judge. A bench trial was held in February 1995, and in November of that year the court held that Process 1 and Process 2 (which had been introduced after the 1991 trial) infringed the '012 patent under the doctrine of equivalents. The court held defendants CAT, Firstliner, and MSC liable for direct infringement. The court also found CAT and Firstliner liable for induced infringement. Additionally, the court found that KS also had induced infringement of the '012 patent. Defendants appealed.

B. Insituform I

On appeal, we ruled that claim 1 of the '012 patent, which recites use of a single cup moved to different windows along the tube to draw a vacuum, did not encompass the accused methods of using several cups or several needles attached at different points along the tube, and thus was not literally infringed by either Process 1 or Process 2. Insituform Techs., Inc. v. Cat Contracting, Inc., 99 F.3d 1098, 1106-07 (Fed. Cir. 1996) ("Insituform I"). We also ruled that plaintiffs were not barred by prosecution history estoppel from asserting infringement under the doctrine of equivalents. Id. at 1107-08. Finally, we ruled that the district court had erred in construing claim 1. We therefore vacated the judgment of infringement with respect to both processes under the doctrine of equivalents and remanded the case for new findings regarding infringement under the doctrine of equivalents under the correct claim construction. Id. Because we vacated the judgment of direct infringement, we did not reach the issue of whether KS had induced infringement of the '012 patent.

C. Insituform II

On remand, the district court again held that claim 1 of the '012 patent was infringed by both Process 1 and Process 2 under the doctrine of equivalents. Insituform Techs., Inc. v. Cat Contracting, Inc., CA No. H-90-1690 (S.D. Tex. Dec. 31, 1996). The court subsequently enjoined defendants from practicing those processes. In addition, the court ruled again that KS had induced infringement of the '012 patent. Defendants again appealed.

On the second appeal to us, we reaffirmed that prosecution history estoppel did not bar plaintiffs from asserting infringement under the doctrine of equivalents. Insituform Techs., Inc. v. Cat Contracting, Inc., 166 F.3d 688, 692 (Fed. Cir. 1998) (“Insituform II”). On the infringement issue, insofar as Process 1 was concerned, we affirmed the district court’s holding that the process infringed claim 1 of the ‘012 patent under the doctrine of equivalents. Id. at 693. However, with respect to Process 2, we held that there were substantial differences between the claimed single cup process and the accused multiple needle process. Id. at 694. Accordingly, we reversed the court’s holding that Process 2 infringed. Id.

Turning to the liability of KS[2] for induced infringement, we noted that “a separate corporation related to [KS] licensed the infringing technology to [Firstliner] after [KS] received notice of the ‘012 patent.” Id. at 695. That corporation was Gruppe. Because Gruppe was not a party to the case, and because “there were no findings that this affiliate was [KS]’s alter ego,” we vacated the district court’s holding and remanded for further proceedings on the inducement issue. Id.

D. Insituform III

On remand, the district court determined that Gruppe was not the alter ego of KS and that KS, therefore, was not liable for induced infringement. District Court Opinion, slip op. at 45. Additionally, the district court joined Giulio Catallo in his personal capacity as a defendant, and held him jointly liable for damages. Joinder Order, slip op. at 9. With both the liability and damages trials now concluded, the court awarded damages for infringement of the ‘012 patent by Process 1 under the doctrine of equivalents. District Court Opinion, slip op. at 62. Additionally, the court found CAT and Firstliner’s infringement to be willful and thus enhanced the actual damages award by fifty percent, id. at 55, and awarded Insituform attorney fees, id. at 57.

Defendants appealed, raising a number of different issues. These included (1) whether Insituform Netherlands, the new assignee of the ‘012 patent, had been improperly joined as a plaintiff; (2) whether Giulio Catallo, as president of CAT, had been improperly joined as an individual defendant jointly and severally liable for damages; (3) whether the district court had properly assessed damages

following our decision in Insituform II; (4) whether the district court had erred in holding that the infringement that was found in the case was willful; and (5) whether the district court had erred in determining the extent to which accused infringers CAT and Firstliner instructed, and therefore induced, their licensees to use the infringing process. For their part, plaintiffs cross-appealed the district court's ruling that Gruppe was not the alter ego of KS and that KS therefore was not vicariously liable for induced infringement.

After oral argument in the appeal, defendants filed motions asking us to apply our holding in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 234 F.3d 558 (Fed. Cir. 2000) (en banc) (“Festo I”). In Festo I, we ruled that a narrowing amendment to a claim limitation made for a substantial reason related to patentability completely bars the application of the doctrine of equivalents to that amended claim limitation. Id. at 569. Because our Festo I decision represented an intervening change in controlling authority, we revisited our infringement holdings in Insituform I and II. Insituform Techs., Inc. v. Cat Contracting, Inc., 10 Fed. Appx. 871, 877 (Fed. Cir. 2001) (unpublished) (“Insituform III”).

After reexamining the prosecution history of the '012 patent, we determined that, under Festo I, Insituform had made a narrowing amendment to claim 1 of the '012 patent. Insituform III, 10 Fed. Appx. at 879-80. The claim was narrowed, we pointed out, because claim 1 in its original form did not limit the number of cups that could be used to create a vacuum, whereas claim 1 in its amended form was limited to the use of one cup. Id. Accordingly, we held that “Insituform cannot assert any range of equivalents for this claim limitation [and] Process 1, which uses multiple cups, cannot infringe under the doctrine of equivalents, the only finding of infringement affirmed by this court.” Id. at 880. We therefore reversed the district court's final judgment of liability and damages, and remanded the case with instructions “(i) to vacate all orders entered after the finding of infringement as moot, including those relating to damages and Catallo's joinder as defendant; and (ii) to dismiss the case as to all parties.” Id. We thus did not address the several remaining issues noted above that originally were on appeal to us in Insituform III. Plaintiffs petitioned the Supreme Court for a writ of certiorari, as did the plaintiff in Festo I.

E. Remand from the Supreme Court

The Supreme Court vacated and remanded our decision in Festo I. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 525 U.S. 722 (2002) (“Festo II”). In Festo II, the Court overruled the complete bar we established in Festo I, establishing a flexible bar instead. Id. at 738 (“[W]e have consistently applied the doctrine [of equivalents] in a flexible way, not a rigid one.”). The Court also held, inter alia, that where the equivalent was “unforeseeable at the time of the amendment” or the rationale underlying the amendment bore “only a peripheral relation” to the equivalent, the patentee could rebut the so-called “Festo-presumption.” Id. at 740. That presumption is that a narrowing amendment made for a reason of patentability surrenders the entire territory between the original and the amended claim limitation. Id. Accordingly, the Court vacated our decision in Insituform III and remanded the case to us for further proceedings in light of its decision in Festo II. Insituform Techs., Inc. v. Cat Contracting, Inc., 535 U.S. 1108 (2002).

F. Festo III

After the Supreme Court remanded Festo to us, we rendered our second en banc decision in the case. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 344 F.3d 1359 (Fed. Cir. 2003) (“Festo III”). In Festo III, we summarized the three ways in which the Supreme Court stated that the Festo presumption could be rebutted. Id. at 1369. First, the patentee may demonstrate that “the alleged equivalent would have been unforeseeable at the time of the narrowing amendment.” Id. Second, the patentee may demonstrate that “the rationale underlying the narrowing amendment bore no more than a tangential relation to the equivalent in question.” Id. Finally, there may be “‘some other reason’ suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent.” Id. (citing Festo II, 535 U.S. at 740-41).

ANALYSIS

The following issues are now before us on direct appeal: (1) whether plaintiffs are barred from asserting infringement under the doctrine of equivalents by reason of prosecution history estoppel in

light of Festo II and Festo III; (2) whether Insituform Netherlands, the new assignee of the '012 patent, was improperly joined as a plaintiff; (3) whether Giulio Catallo, president of CAT, was improperly joined as an individual defendant and held jointly and severally liable for damages; (4) whether the district court properly assessed damages following our decision in Insituform II; (5) whether the district court erred in holding that the infringement that was found in this case was willful; and (6) whether the district court erred in determining the extent to which accused infringers CAT and Firstliner instructed their licensees to use the infringing process. On cross-appeal, we consider whether the district court erred in ruling that Gruppe was not the alter ego of KS, and that KS therefore was not vicariously liable for induced infringement. We address the parties' contentions in turn, beginning with the Festo issue.

I.

With the complete bar of Festo I overturned, we asked the parties to give us their views as to how we should decide the case in light of Festo II and Festo III. In response, both plaintiffs and defendants urged us to decide the Festo issue on the record now before us. We of course are not bound by the wishes of the parties on a question such as this. However, because resolution of the issue turns on whether Insituform's rationale underlying the narrowing amendment bore no more than a tangential relation to accused Process 1, and because the record has been fully developed on this point, we agree that we can decide the issue. See Festo III, 344 F.3d at 1370 (“[W]hether the patentee has established a merely tangential reason for a narrowing amendment is for the court to determine from the prosecution history record without the introduction of additional evidence, except, when necessary, testimony from those skilled in the art as to the interpretation of that record.”).

Plaintiffs urge that nothing in either Festo II or Festo III invalidates Insituform II, where we determined that plaintiffs were not barred by prosecution history estoppel from asserting infringement under the doctrine of equivalents. Plaintiffs contend that any presumption of surrender is rebutted because the rationale underlying the amendment narrowing claim 1 to a single cup process bears at most a tangential relation to the infringing equivalent—the multiple-cup method of Process 1. Specifically,

plaintiffs assert that the reason for the amendment was to overcome the prior art teaching of a single vacuum source at the far end of the tube liner. As such, plaintiffs argue, the amendment is, at most, only tangentially related to Process 1, which places multiple cups near the resin front.

For their part, defendants note that claim 1, as originally filed, covered a process using single or multiple cups at any location downstream of the resin front. See *Insituform I*, 99 F.3d at 1108. They also note that we construed claim 1, as amended, to cover a single vacuum cup, which inherently creates a discontinuous vacuum. Id. at 1106. Defendants thus argue that accused Process 1 falls squarely within the territory surrendered by the narrowing amendment.

For the reasons which follow, we hold that plaintiffs have rebutted the *Festo* presumption that a narrowing amendment made for a reason of patentability surrenders the entire territory between the original claim limitation and the amended claim limitation. See *Festo II*, 535 U.S. at 740-41. We reach this conclusion because we conclude that the prosecution history establishes that “the rationale underlying” the amendment narrowing the scope of literal claim coverage from multiple cups to a single cup bears “no more than a tangential relation to the equivalent in question,” accused Process 1. Id. Therefore, application of the doctrine of equivalents in this case was not barred. Accordingly, we again affirm the judgment of the district court that Process 1 infringed claim 1 of the ‘012 patent under the doctrine of equivalents.[3]

In *Insituform I*, we construed claim 1 of the ‘012 patent as limited to “a process using only one vacuum cup which inherently creates a discontinuous vacuum.” Id. at 1106. Based upon that construction, we affirmed the district court’s JNOV that Firstliner’s Process 1, employing multiple cups beyond the resin, did not literally infringe claim 1. Id. As noted, we also held, however, that *Insituform* was not barred by prosecution history estoppel from asserting that Process 1 infringed claim 1 under the doctrine of equivalents. Id. at 1109. In so holding, we first looked at the original claims in *Insituform*’s application. Of those, only the first four are relevant to this appeal. Those claims recited:

1. A method of impregnating a flexible tube comprising an inner layer of resin absorbent material and an outer layer in the form of an impermeable film, wherein the resin absorbent layer is impregnated with a curable resin

by applying a vacuum to the inside of a flexible tube whilst the resin is brought into impregnation contact with the resin absorbent material, the impermeable film serving as a means to prevent ingress of air into the interior of the tube, whilst the impregnation process is taking place.

2. A method according to claim 1, wherein the resin is introduced into one end of the tube in a quantity calculated effectively to impregnate all of the resin absorbent material of the tube, and the vacuum is applied to the interior of the tube, downstream of the resin mass, so that the resin will tend to flow towards the vacuum application region.

3. A method according to claim 2, wherein the lining tube containing the mass of resin is fed through a pressure applying nip, such as may be defined by a nip roller, which, together with the movement of the tube, squeezes the resin in a direction towards the region of the application of the vacuum, at the same time flattening the tube and assisting in the even distribution of the resin.

4. A method according to claim 2, wherein the vacuum is applied through a window in the film in the wall of the tube by means of a cup applied to said window and connected to a source of vacuum by means of a flexible hose, whereby the cup can move with the tube during its movement relative to said nip, the cup being moved and applied to a position spaced downstream from the previous window, said previous window being sealed by means of a patch or the like, whereby the process is repeated for respective lengths of the tube until the entire tube length has been impregnated.

As can be seen, the position and number of vacuum cups were not specified in independent claim 1. Neither did claim 1 specify the location of the vacuum source. Dependent claim 2 referred to the vacuum being applied to the interior of the tube, “downstream of the resin mass,” while dependent claim 3 stated that the resin is squeezed “in a direction towards the region of the application of the vacuum.” It was only in dependent claim 4 that the inventor recited application of the vacuum through a window in the wall of the tube by means of a cup applied to the window, as well as repositioning of the cup. All four claims were rejected over United States Patent No. 4,182,262 to Everson (“Everson”).

We stated in Insituform I that the original four claims “were rejected over Everson, which discloses both the use of a continuous vacuum and the creation of that vacuum from only a single vacuum source at the far end of the tube opposite the resin source.” Id. at 1108. The objection was overcome by amending claim 1 to include, in a different form, the limitations of original dependent claims 2-4. Further examining the prosecution history, we determined that Insituform had stated to the

examiner that the problem with Everson was that Everson's method was ineffective when dealing with a long length of tube because it required an exceedingly large suction compressor. We pointed out that Insituform solved this problem by placing the suction source closer to the resin front, thus allowing the use of a smaller suction compressor. Id. Based on our examination of the prosecution history, we concluded that Insituform was not estopped from asserting that Inliner's multiple cup process infringed claim 1 of the '012 patent under the doctrine of equivalents:

[I]t cannot be said that a reasonable competitor could conclude that Insituform relinquished coverage of processes using either multiple vacuum sources or a continuous vacuum. At no point did Insituform indicate that the Everson problem could be solved only in the manner used by Insituform, *i.e.*, Insituform never stated that the problem could not be solved by using more than one vacuum source or a continuous vacuum. Rather, the only express limitation put on the invention by Insituform was the use of a vacuum source close to the resin.

Id. at 1109. We remanded the case to the district court for further proceedings on whether Process 1 infringed claim 1 under the doctrine of equivalents.

On remand, the district court held that Process 1 infringed claim 1 under the doctrine of equivalents, and the case returned to us on appeal in Insituform II. On appeal, Firstliner argued that Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17 (1997), issued after Insituform I, limited the doctrine of equivalents so that it could not apply in the case. Firstliner pointed to Warner-Jenkinson's holding that where no explanation is given for an amendment made during prosecution of a patent, a presumption is to be applied against the patentee that the amendment was made for purposes of patentability. Firstliner asserted that when Insituform amended claim 1 in response to the examiner's 35 U.S.C. § 103 rejection over Everson, it necessarily gave up coverage of any process in which the vacuum was created at multiple vacuum sources because it provided no explanation for that narrowing amendment. Insituform II, 161 F.3d at 691. We rejected this argument, pointing out that, during prosecution, Insituform had explained the reason for the amendment of claim 1:

The stated reason . . . for Insituform's amendment to overcome the Everson reference was to avoid the need to use a large compressor when the vacuum is created a significant distance from the resin source. The Warner Jenkinson presumption, therefore, which comes into play only

when no explanation is given for a claim amendment, is not applicable to this case because Insituform made clear that the reason for the amendment was to overcome the prior art teaching creation of a single source vacuum at the far end of the liner.

Id. at 692 (citation omitted, emphasis in original). Having rejected Inliner's prosecution history estoppel argument, we went on to affirm the district court's judgment of infringement under the doctrine of equivalents. Id. at 692-93. As noted above, however, we subsequently reversed the judgment of infringement in Insituform III based on our short-lived complete bar rule arising out of Festo I.

In our view, Insituform has rebutted the Festo presumption. The prosecution history and our discussion of that history in Insituform I and II compel the conclusion that the amendment limiting the literal scope of claim 1 to a single cup process bears "only a tangential relation," if that, "to the equivalent in question," a process using multiple cups. The question we must address is "whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent." Festo III, 344 F.3d at 1365. As the discussion above indicates, the narrowing amendment in this case was for the purpose of distinguishing the invention over Everson. Insituform made it clear that the difference between its process and Everson was that its process did not have the disadvantage of the Everson process of a large compressor at the end of the liner. There is no indication in the prosecution history of any relationship between the narrowing amendment and a multiple cup process, which is the alleged equivalent in this case. Thus, we hold that plaintiffs have successfully rebutted the Festo presumption by establishing that the amendment narrowing the claimed invention from multiple cups to a single cup was tangential to accused Process 1, which used multiple cups attached at different points along the liner tube. We therefore affirm the judgment of infringement under the doctrine of equivalents.

Because we have sustained the judgment of infringement, we must consider the several additional issues that were mooted when we reversed the judgment of infringement under the short-lived complete bar rule arising out of Festo I.

II.

We consider first the issues raised by defendants in their direct appeal. Defendants appeal (1) the joinder of Insituform Netherlands, (2) the joinder of Catallo in his individual capacity, (3) the damages award for infringement by Process 1, (4) the district court's willfulness determination, and (5) the extent to which CAT/Firstliner induced infringement by their licensees.

A. Joinder of Insituform Netherlands

Defendants appeal the joinder of Insituform Netherlands. According to defendants, the current owner of the '012 patent, Insituform Netherlands, never filed suit and was named to this litigation only because of a misrepresentation to the district court in 1994, after the case was reassigned to a new judge. They assert that the district court's 1994 decision adding Insituform Netherlands as a party was in error and that no properly named party has standing to sue for damages. Plaintiffs respond that the district court acted well within its discretion (i) in granting the joint 1994 motion that Insituform Netherlands be added as a party, and (ii) in refusing to alter that decision in 1999.

The original corporate plaintiff, and owner of the '012 patent, was Insituform Licensees B.V. Insituform Licensees B.V. filed this lawsuit in 1990. In 1992, the case went to trial. At that time, the plaintiffs were Insituform Licensees B.V.; Insituform of North America, Inc.; and Insituform Gulf South, Inc. The defendants were CAT, MSC, KS, and Firstliner.

Following a jury trial, a verdict, and after a new trial was ordered, Insituform Licensees B.V. assigned the '012 patent to Insituform Netherlands. The assignment included the right to sue for past infringement. At the time of the assignment, Insituform Netherlands was not a party to the lawsuit, and it did nothing to join the suit for two years. On November 30, 1994, the parties entered a joint motion asking the court to make Insituform Netherlands a party. The motion stated that "legal title to the patent in suit has been transferred from Insituform Licensees B.V. to Insituform (Netherlands) BV." Plaintiffs also represented to defendants and to the district court that Insituform Licensees B.V. had changed its name to Insituform Netherlands. This was not technically true. While ownership of the patent had, indeed, changed hands, Insituform Licensees B.V. was still an existing corporate entity at the time of the motion. After the motion to join Insituform Netherlands was granted, defendants discovered the alleged

misrepresentation and, on that basis, now challenge Insituform Netherlands' standing.

Probably to remedy what they perceived to be a potential defective parties problem, plaintiffs, in 1999, sought leave to amend their pleadings to include Insituform North America, Inc.^[4] and, if necessary, Insituform Netherlands as parties under Fed. R. Civ. P. 15(a) and 21. The district court stated that “[Insituform Netherlands] was made a party to this suit by order of this court on November 30, 1994.” District Court Opinion, slip op. at 21. The court also stated that “the rights of the legal patent owner have been at issue since the inception of this case and . . . [Insituform Netherlands] has presented evidence of recoverable monetary damages that Defendants have been able to rebut at trial. Therefore, Defendants would not be prejudiced if [Insituform Netherlands] is recognized as a party plaintiff in this suit.” Id. at 21-22. In other words, the district court ruled that it had already joined Insituform Netherlands as a party in November 1994, and it refused to change that decision in 1999, despite the arguments of defendants.

Because the joinder issue is not unique to patent law, we apply the law of the regional circuit. McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1357 (Fed. Cir. 2001) (“A district court’s decision to grant or deny a motion for leave to join a party involves a procedural question that raises no special issues relating to patent law, and therefore [regional circuit] law applies.”); Datascope Corp. v. SMEC, Inc., 962 F.2d 1043, 1045 (Fed. Cir. 1992) (Regional circuit law determines “the standard for determining whether the district court abused its discretion in denying [the patentee] leave to amend” its complaint to add a new party.). Rule 15(a) provides that a party may amend its pleadings “only by leave of court or by written consent of the adverse party; and leave shall be freely given when justice so requires.” Fed. R. Civ. P. 15(a). Rule 21 states that “parties may be dropped or added by order of the court on motion of any party or of its own initiative at any stage of the action and on such terms as are just.” Fed. R. Civ. P. 21. In applying Rule 21, the court is governed by the liberal amendment standards of Rule 15(a). See McLellan v. Miss. Power & Light, 526 F.2d 870, 873 (5th Cir. 1976). The decision to grant or deny a motion for leave to amend thus lies within the sound discretion of the trial court. Jacobsen v. Osborne, 133 F.3d 315, 318 (5th Cir. 1998); Datascope Corp., 962 F.2d at 1045. The Fifth Circuit has stated that leave should be granted “in the absence of any apparent or declared reason—such

as undue delay, bad faith or dilatory motive on the part of the movant, repeated failure to cure deficiencies by amendments previously allowed, undue prejudice to the opposing party by virtue of allowance of the amendment, [or] futility of amendment.” Jacobsen, 133 F.3d at 318.

The district court exercised its discretion in this case fully aware of plaintiffs’ alleged misrepresentation in the 1994 joint motion and determined that defendants would suffer no prejudice were Insituform Netherlands joined as a party. District Court Opinion, slip op. at 21-22. We discern no abuse of discretion in this decision, and thus affirm the district court’s ruling.^[5] We have considered the defendant’s other arguments on this point and find them not persuasive.

B. Joinder of Giulio Catallo

Defendants appeal the joinder of Giulio Catallo as a defendant in his individual capacity. According to defendants, the addition of Catallo as a party to this suit violated due process and was contrary to the Supreme Court’s decision in Nelson v. Adams U.S.A., Inc., 529 U.S. 460 (2000). For their part, plaintiffs distinguish Nelson and rely on our decision in Fromson v. Citiplate, Inc., 886 F.2d 1300 (Fed. Cir. 1989). Plaintiffs assert that Catallo is the main executive officer of both CAT and Firstliner and (1) had controlling authority of their day-to-day operations, (2) was directly and actively involved in all aspects of the litigation, and (3) was individually responsible for all of the conduct that led the district court to increase damages and award attorney’s fees. As explained below, the district court’s ruling on this point is supported by our decision in Fromson, and we see no clear error in the court’s interpretation of the facts. We accordingly affirm the court’s decision on this point.

Giulio Catallo is the sole owner of defendants CAT and Firstliner. He also is president of both corporations. Plaintiffs first attempted to join Catallo in his individual capacity in January of 1991, before the first infringement trial in the case. That motion was denied without prejudice and without opinion. Plaintiffs renewed their motion after the infringement trial (the trial for damages was bifurcated) in July 1991. This motion also was denied without prejudice and without opinion. In each case, the reason asserted for the joinder of Catallo was that he was “directly responsible for all of the activities of CAT and INLINER [and] was clearly the moving force behind infringement [and]

personally financially benefited from the payments made [under one of the contracts found to be infringing.]” Additionally, plaintiffs asserted that Catallo was personally a licensee of the accused process because he signed a license agreement twice, on behalf of himself and as President of Firstliner.

The damages portion of the case was tried in September 1997. After trial, the court found that defendants’ infringement had been willful. In July 1999, plaintiffs moved again to add Giulio Catallo as a defendant. In so doing, they argued that Catallo’s corporations were a “real credit risk.” They also argued that Catallo was a personal tortfeasor. Finally, they urged that in the intervening years (1991-1999) many facts had come to light that weighed in favor of making Catallo personally liable as an individual party.

Defendants acknowledge that a corporate entity may be disregarded if doing so will prevent fraud, illegality, injustice, a contravention of public policy, or prevent the corporation from shielding someone from criminal liability. See Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544, 552 (Fed. Cir. 1990). They argue, however, that none of these reasons were present in this case. They state that Catallo “was merely acting in accordance [with] the duties and scope of his position” and that he “had a good faith belief and basis that the Firstliner process did not infringe any Insituform patents when the contracts were performed.” In short, defendants contend that there was no reason to pierce the corporate veil in this case.

In an August 30, 1999 order, the district court granted plaintiffs’ motion to join Giulio Catallo. Joinder Order, slip op. at 9. In granting this third request to add Catallo as a defendant, the district court recognized that it was faced “with the uncommon situation where an individual is sought to be added as a party after the conclusion of trial.” Id. at 5. With respect to the propriety of adding Catallo as a defendant, the district court relied on our decision in Ohio Cellular Products Corp. v. Adams, U.S.A., Inc., 175 F.3d 1343 (Fed. Cir. 1999), rev’d sub nom. Nelson v. Adams, U.S.A., Inc., 529 U.S. 460 (2000), which was, at that time, pending before the Supreme Court. The court also pointed to our decision in Fromson. With respect to the personal liability of Catallo, the court relied on Walker v.

Federal Deposit Insurance Corp., 970 F.2d 114, 122 (5th Cir. 1992), where the Fifth Circuit stated that “[a]n officer is individually liable for any tortious conduct that he committed in connection with his corporate duties If a corporate officer knowingly participates in a tortious act, there is no need to pierce the corporate veil in order to impose liability.” In light of the facts that led to a finding of willful infringement, and because the court believed that Catallo “was personally responsible for many, if not all, of the aggravating facts which led this court to award attorney’s fees and enhanced damages,” Joinder Order, slip op. at 7, it granted the motion to add Catallo as a defendant in his individual capacity, id. at 9.

As noted above, because the amendment of a pleading to add a party is not unique to patent law, we apply the law of the regional circuit. McGinley, 262 F.3d at 1357. We thus review a district court’s decision to add a party pursuant to Rules 15 and 21 of the Federal Rules of Civil Procedure for an abuse of discretion. Jacobsen, 133 F.3d at 318. Our decision in Ohio Cellular, upon which the district court relied, was subsequently overturned by the Supreme Court. Nelson, 529 U.S. at 472. Resolution of this issue thus turns on whether the facts of this case fall more closely under the Supreme Court’s decision in Nelson, or our decision in Fromson, which the Supreme Court distinguished in Nelson. If the facts are closer to Nelson, then the district court decision is incorrect as a matter of law, and Catallo was improperly joined. If the facts are closer to Fromson, then the district court decision should be affirmed.

In Nelson, Ohio Cellular Products Corp. (“OCP”) sued Adams, U.S.A., Inc. (“Adams”) for patent infringement. Eventually, the action was dismissed and Adams was awarded costs and attorney fees. Nelson, 529 U.S. at 462. Adams, fearful that OCP would be unable to pay, moved to amend its pleadings pursuant to Fed. R. Civ. P. 15 to include Nelson, the sole shareholder of OCP, as a party. Id. The district court granted the motion and simultaneously subjected Nelson to the judgment, a decision we subsequently affirmed in Ohio Cellular.

The Supreme Court reversed our decision in Ohio Cellular on due process grounds. The Court determined that Nelson was never afforded a proper opportunity to respond to the claim against him. Id. at 467. He was never served with an amended pleading, nor was any such pleading actually composed

and filed in the court. Id. at 466. Nor, after the amendment naming him as a party, was Nelson accorded ten days to state his defenses against personal liability for costs and fees. Id. Instead, judgment was entered against him the moment permission to amend the pleading was granted. Id. The Court stated that “appeal after judgment, in the circumstances this case presents, did not provide an adequate opportunity to defend against the imposition of liability.” Id. Finally, the Court noted that Adams never once sought to sue Nelson individually until after judgment was entered against Ohio Cellular. Id. at 467.

In Fromson, Citiplate, Inc. (“Citiplate”) was sued by Howard A. Fromson (“Fromson”) for patent infringement. Fromson moved before trial to add the individual owners of Citiplate as parties, because he suspected that the defendant corporation might not be able to pay a judgment against it. Fromson, 886 F.2d at 1301. The district court initially denied the motion because of defendant Citiplate’s assurances that its financial condition was sound. Id. These assurances turned out to be false. After judgment had been entered, the court allowed Fromson to amend its original complaint to add the individual owners of Citiplate as parties pursuant to Fed. R. Civ. P. 15(c). Id. at 1302.

We affirmed the district court’s decision. In so doing, we relied upon the test articulated by the Supreme Court in Schiavone v. Fortune, Inc., 477 U.S. 21 (1986), to determine whether the requirements of Rule 15(c) had been met. In Schiavone, the Court articulated a four-part test:

Relation back is dependent upon four factors, all of which must be satisfied: (1) the basic claim must have arisen out of the conduct set forth in the original pleading; (2) the party to be brought in must have received such notice that it will not be prejudiced in maintaining its defense; (3) that party must or should have known that, but for a mistake concerning identity, the action would have been brought against it; and (4) the second and third requirements must have been fulfilled within the prescribed limitations period.

Schiavone, 477 U.S. at 29. Based on this test, we determined that the “identity of interests between Citiplate and [its individual owners] is virtually complete and that [the individual owners] should have known all along that joinder was a possibility.” Fromson, 886 F.2d at 1304. We concluded that the owners of Citiplate “themselves created the ‘mistake’ respecting the identity of the proper party

rightfully to be sued and capable of responding to damages.” Id.

The original 1991 motions to add Giulio Catallo presumably were denied because the district court believed defendants’ assertions that Catallo “was merely acting in accordance [with] the duties and scope of his position” and that he “had a good faith belief and basis that the Inliner process did not infringe any Insituform patents when the contracts were performed.” When all the facts were determined following the 1997 damages trial, the court concluded that these assertions were not true, finding that Catallo “was personally responsible for many, if not all, of the aggravating facts which led this court to award attorney’s fees and enhanced damages.” Joinder Order, slip op. at 7. Furthermore, the court found that “Catallo diligently acted to protect his interests at every stage of the proceedings.” Id. The court subsequently exercised its discretion and granted the motion requesting that Catallo be added as a defendant.

Applying the Fifth Circuit’s abuse of discretion standard, we cannot say that the district court abused its discretion in adding Catallo as a defendant in his individual capacity. In our view, the controlling case is Fromson, which the Supreme Court distinguished in Nelson. As in Fromson, plaintiffs in this case sought from the very beginning to add Catallo as a defendant in his individual capacity on the theory that he was liable as an individual tortfeasor. We have stated that “it is well settled that corporate officers who actively aid and abet their corporation’s infringement may be personally liable for inducing infringement under § 271(b) regardless of whether the corporation is the alter ego of the corporate officer.” Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1579 (Fed. Cir. 1986). The facts of this case are closer to Fromson than to Nelson. Accordingly, we affirm the decision of the district court.

C. Damages

The overarching issue with respect to damages is the propriety of the district court’s procedure in reassessing damages in light of our decision in Insituform II. The issues of infringement and damages were bifurcated in the case. The damages trial concluded while the appealed infringement decision still was pending before us in Insituform II. The damages trial was conducted under the assumption that

Process 1 (using cups) and Process 2 (using needles) both infringed the '012 patent. We determined, however, that only Process 1 infringed and that Process 2 did not. Insituform II, 161 F.3d at 694. Not knowing that the damages trial had already concluded, we stated that “the bifurcated damages trial will determine for what amount [defendants are] actually responsible” Id. at 695.

Following our decision in Insituform II, the district court, over the objection of defendants, chose to allow only limited discovery to address the issue of damages, instead of again opening up trial proceedings. District Court Opinion, slip op. at 3-4. The primary issue on which the final damages award turned was one of fact. Specifically, the district court had to determine the date on which defendants stopped using infringing Process 1 and started using the non-infringing Process 2. Id. at 35-36. To that end, the court turned to the June 1991 trial testimony of Giulio Catallo, which indicated that defendants switched to Process 2 “sometime after June of 1991.” Id. at 35.[6] Defendants urged the court to rely instead on Catallo’s February 1995 trial testimony, where he indicated that defendants had shifted to needles exclusively by March of 1991. Id. During the discovery period, defendants presented deposition testimony of two additional witnesses to support their assertion that February 14, 1991, was the actual date by which they had stopped using Process 1. This testimony was offered to establish a specific date and to buttress Catallo’s February 1995 testimony. Id. at 35-36.

Based on Catallo’s previous testimony at the 1991 and 1995 trials, and the new evidence presented during discovery, the district court amended its damages ruling. The court stated that the deposition testimony of the two additional witnesses “do[es] nothing to persuade the Court that needles were actually being used for production purposes during the first quarter of 1991.” Id. In conclusion, the court found that “the totality of the testimony of these witnesses does make it appear credible that Defendants had switched to needles for production by the end of 1991 Therefore, for purposes of these damages calculations, the court finds that a preponderance of the evidence necessitates that the Court enter a finding that Defendants had switched to the use of Process 2 for production by the beginning of 1992.” Id. at 36.

Defendants argue on appeal that rendition of judgment without a trial specifically focusing on

damages relating to Process 1 violated their due process rights and our mandate in Insituform II. For their part, plaintiffs respond that there was no procedural error in the district court's damages calculation because, in their view, the district court did not make credibility choices except as to Catallo's testimony in open court. Additionally, plaintiffs argue that the due process requirements in a civil case, where only property interests are at stake, are much less stringent than in criminal cases.

We agree with defendants that "the procedure chosen by the district court in this case was tantamount to a 'trial by affidavit' which has long been disapproved in our federal judicial system." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986). Defendants characterize the trial court's action as a "de facto summary judgment" proceeding because the district court essentially ruled based on deposition and affidavit testimony without the opportunity to observe or assess the credibility of the new witnesses. We agree with defendants' characterization and accordingly review the district court's decision on this point under the summary judgment standard.

We review summary judgment de novo. Merck & Co., Inc. v. Mylan Pharms., Inc., 190 F.3d 1335, 1338 (Fed. Cir. 1999). Summary judgment is appropriate where the record indicates "that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). We believe that the deposition testimony of the two additional witnesses, combined with the inconsistent testimony of Catallo at the two trials created a disputed issue of material fact upon which the quantum of damages turns. The district court should have resolved this issue with trial-type proceedings. We therefore vacate and remand on this issue so that the trial court may properly weigh the new evidence regarding the quantum of damages attributable to infringing Process 1.

D. Willful Infringement

The district court determined that defendants CAT and Firstliner's infringement had been willful. District Court Opinion, slip op. at 55. One crucial aspect of the district court's willfulness determination was the failure of CAT and Firstliner to obtain an opinion of counsel. Id. at 52-54. The district court stated that "due to a complete absence of competent advice regarding possible infringement of the '012 patent and a flagrant display of deliberate misconduct by CAT/[First]liner throughout this

proceeding, the Court finds that actions of CAT/[First]liner's evidenced the degree of willfulness necessary to support the award of enhanced damages." Id. at 54 (emphasis added). In our recent en banc decision in Knorr-Bremse Systeme Fuer Nutzfahrzeuge, Gmbh v. Dana Corp., Nos. 01-1357, -1376, 02-1221, -1256, slip op. at 11 (Fed. Cir. Sept. 13, 2004), we addressed, inter alia, whether the failure of a defendant in a patent infringement suit to obtain an opinion of counsel "will provide an inference or evidentiary presumption that such opinion would have been negative." We held in Knorr-Bremse that "the failure to obtain an exculpatory opinion of counsel shall no longer provide an adverse inference or presumption that such an opinion would have been unfavorable." Id. at 12. Such an inference was one factor upon which the district court based its willfulness determination in this case. A determination of willfulness is made on consideration of the totality of the circumstances. See Gustafson, Inc. v. Intersystems Indus. Prods., Inc., 897 F.2d 508, 510 (Fed. Cir. 1990). Because elimination of the adverse inference arising from failure to obtain an opinion of counsel is a material change in the totality of the circumstances in this case, a fresh weighing of the evidence is required. For this reason, we vacate the district court's willfulness finding and remand for further proceedings.

E. Inducement of Infringement

The district court determined that CAT and Firstliner were liable for induced infringement under 35 U.S.C. § 271(b) on account of work done by their licensees. District Court Opinion, slip op. at 45. CAT and Firstliner raise two issues related to their alleged induced infringement. First, they contend that there was a lack of proof with regard to the scienter element of induced infringement. Second, they contend that there was insufficient evidence to sustain the district court's determination of damages related to the licensees' use of infringing Process 1.

Section 271(b) provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." In order to succeed on a claim of inducement, the patentee must show both direct infringement and a certain level of intent on the part of the alleged inducer that the patent be infringed. Water Techs. Corp. v. Calco, Ltd., 850 F.2d 660, 668 (Fed. Cir. 1988). However, there is a lack of clarity concerning whether the required intent must be merely to induce the specific acts or additionally

to cause an infringement. See Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544, 553 (Fed. Cir. 1990) (“The plaintiff has the burden of showing that the alleged infringer’s actions induced infringing acts and that he knew or should have known his actions would induce actual infringements.”). But see Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464, 1469 (Fed. Cir. 1990) (“Proof of actual intent to cause the acts which constitute the infringement is a necessary prerequisite to finding active inducement.”). Nevertheless, we need not resolve any ambiguity in the case law on this point because there is sufficient evidence to support the district court’s finding under either standard.

The district court relied on Manville and applied the stricter standard for induced infringement, requiring that “the alleged infringer’s actions induced infringing acts and that he knew or should have known his actions would induce actual infringement.” District Court Opinion, slip op. at 40 (citing Manville, 917 F.2d at 553). In finding the requisite intent, the court noted a response to a questionnaire submitted by one of CAT/Firstliner’s licensees. Id. at 47. The licensee claimed to have used infringing Process 1 in 100 percent of its contracts and that, with regard to how it acquired knowledge of the impregnation process, “[w]e expected to get directives from [Firstliner] representatives, and we did.” Id. at 47-48. The district court thus concluded that defendants taught their licensees to use Process 1. Additionally, Firstliner did not begin its licensing program until 1992, which was after the original June 1991 trial. CAT and Firstliner’s licensing activity thus occurred with full knowledge that Process 1 had been accused of infringing the ‘012 patent. On this evidence, the court determined that the intent requirement was met.

Intent is a factual determination particularly within the province of the trier of fact and may be inferred from all of the circumstances. Water Techs., 850 F.2d at 669. We review factual determinations by the court for clear error. Tegal Corp. v. Tokyo Electron Am., Inc., 257 F.3d 1331, 1345-46 (Fed. Cir. 2001). “A finding is ‘clearly erroneous’ when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.” United States v. United States Gypsum Co., 333 U.S. 364, 395 (1948). There is evidence in the record to support the district court’s finding that CAT/Firstliner induced infringement of

the '012 patent and we are not left with the definite and firm conviction that a mistake has been committed.

We now turn to the method the district court used to arrive at the quantum of damages. To assess damages, the court had to make findings as to the percentage of CAT/Firstliner licensees that were instructed to use infringing Process 1. The issue before us is whether the district court correctly determined the extent to which defendants CAT and Firstliner instructed their licensees to use the infringing Process 1, thereby inducing infringement under 35 U.S.C. § 271(b). Specifically, the issue is whether the district court's method for determining the percentage of licensees who were instructed to use infringing Process 1 was flawed. The parties agreed to resolve this aspect of the lawsuit by licensees' questionnaire answers, subject to correction by deposition if either party so desired. District Court Opinion, slip op. at 45-46. It appears that the district court resolved this issue on the basis selected by the parties, and properly exercised its discretion in so doing. Accordingly, we affirm the district court's ruling on this point.

Defendants assert that the district court clearly erred in its methodology in determining the extent to which CAT/Firstliner instructed their licensees to use infringing Process 1. Primarily, defendants argue that plaintiffs failed to carry their burden of proof with respect to the royalty revenue received by defendants CAT and Firstliner from use of the accused Process 1. Plaintiffs respond that the parties stipulated to a procedure for establishing the extent to which CAT and Firstliner instructed their licensees to use Process 1. Plaintiffs argue that the district court, having resolved the issue in the manner selected and stipulated to by the parties, should be given full deference as the factfinder in the case.

As part of the stipulated procedure for determining the extent of induced infringement, a formal questionnaire was prepared and distributed to CAT/Firstliner's licensees. Only two licensees responded. The first licensee said it was instructed to use Process 1; the second licensee said it was instructed to use Process 2. The district court noted that the response to the questionnaires was "admittedly less than satisfactory." District Court Opinion, slip op. at 46. However, the court judged

that the poor response “was due in no small part to actions of Defendants in publishing statements in trade publications and in disseminating letters which implied that the finding of this Court would be reversed.” Id. at 46-47. The court concluded that “[b]ecause this limited statistical sampling was caused by no fault of Insituform, the Court will not, as Defendants have requested, limit Insituform’s damage claim for lack of supporting proof. Instead, the Court will rely on these questionnaires in making its determination regarding the extent to which the licensees used the infringing methods and were induced to do so by the Defendants.” Id. at 47. Accordingly, the district court determined that half of CAT and Firstliner’s licensees were instructed to use infringing Process 1, while half used non-infringing Process 2.

“[C]ertain subsidiary decisions underlying a damage theory are discretionary with the court, such as . . . [determining] the methodology for arriving at a reasonable royalty [citations omitted]. Such decisions are, of course reviewed under the abuse of discretion standard.” SmithKline Diagnostics, Inc. v. Helena Labs. Corp., 926 F.2d 1161, 1164 (Fed. Cir. 1991). “[A court] may . . . adopt in its discretion a reasonable way to determine the number of infringing units. Such subsidiary choices are left to the court’s sound discretion under our precedent.” Id. at 1165 n.2. “Discretion, in this sense, is abused if the record contains no basis on which the district court rationally could have made its decision or if the judicial action is arbitrary, fanciful, or clearly unreasonable.” Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 827-28 (Fed. Cir. 1989).

We do not believe that CAT/Firstliner has shown an abuse of discretion in this case. Accordingly, we will not disturb the district court’s ruling that at least half of defendants’ licensees used Process 1, while the other half used Process 2. District Court Opinion, slip op. at 48.

III.

We now address plaintiff’s cross-appeal. Plaintiffs appeal the district court’s decision declining to hold KS liable for infringement based on an alter-ego theory of induced infringement. We begin with a brief review of the key entities and the facts surrounding the alleged alter ego relationship.

KS is a German corporation, and is one of the named defendants in the lawsuit. As noted above, it is a sewer rehabilitation company, owned by Hans Mueller. KS was (legally) using the Firstliner process in Germany under a patent owned by Mueller, United States Patent No. 4,770,562 (“the ‘562 patent”). KS is also the entity that initially met with Giulio Catallo and demonstrated to him use of the accused process in Germany. At that time, KS informed Catallo that it had been involved in patent litigation involving certain European patents held by one of the Insituform entities. Nevertheless, Catallo remained interested in the KS process, and KS signed a letter of intent to license the process to him. KS also prepared a “To Whom it May Concern” letter identifying Mr. Catallo as a “qualified licensee” of the process under the ‘562 patent. It is undisputed that at the time of these activities, KS was not aware of the ‘012 patent. Insituform II, 161 F.3d at 695.

The non-party to whom plaintiffs are trying to link to KS via their alter ego argument is Kanal Mueller Gruppe International GmbH & Co, a German corporation also owned by Hans Mueller, which we refer to as “Gruppe.” Gruppe is an export licensing company that was formed on January 1, 1990. Gruppe is a separate corporate entity from KS. According to KS, Gruppe took over responsibility for licensing the accused process and Catallo, from that point forward, dealt with Gruppe. It appears that, at all times, Hans Mueller himself owned the relevant German patent and rights to license the accused process. He did not officially transfer those rights to Gruppe until 1995.

The present lawsuit was filed on February 2, 1990. At that time, Gruppe, KS, and Catallo first became aware of the ‘012 patent. Despite the lawsuit and notice of the ‘012 patent, Catallo persisted in pursuing a license for the accused process, which Gruppe granted. The license agreement was executed in July 1990 and provided that Gruppe was obligated to provide instruction to CAT/Firstliner employees sent to Germany, and to provide CAT/Firstliner with continued technical support. Plaintiffs assert that KS, the sewer rehabilitation company first contacted by Catallo, and not Gruppe, would have been the entity to provide such instruction and technical support to CAT/Firstliner. In other words, plaintiffs essentially seek to impute the post-lawsuit licensing activity of non-party Gruppe to KS, who is the current party in the suit. In doing so, plaintiffs argue that KS is the alter ego of Gruppe.

The issue before the district court, as directed by this court in Insituform II, was whether Gruppe was the alter ego of KS. Because the alter ego issue is not unique to patent law, this court applies the law of the regional circuit. Panduit Corp. v. All States Plastic Mfg. Co, Inc., 744 F.2d 1564, 1574-75 (Fed. Cir. 1984). In the Fifth Circuit, “resolution of the alter ego issue is heavily fact-specific and, as such, is peculiarly within the province of the trial court.” United States v. Jon-T Chems., Inc., 768 F.2d 686, 649 (5th Cir. 1985); Bridas Sopic v. Gov. of Turkmenistan, 345 F.3d 347, 360 (5th Cir. 2003) (“Alter ego determinations are highly fact-based and require considering the totality of the circumstances in which the instrumentality functions.”). The Fifth Circuit reviews alter ego determinations only for clear error. Bridas Sopic, 345 F.3d at 360. We will thus reverse only if, after reviewing the evidence as a whole, we are “left with the definite and firm conviction that a mistake has been committed.” United States v. United States Gypsum Co., 333 U.S. 364, 395 (1948). “Errors of law, however, are not entitled to deference.” Bridas Sopic, 345 F.3d at 359. It is an error of law if a district court fails to take into account all of the aspects of the relationship between the entities alleged to have an alter ego relationship. Id. at 359-60.

The district court correctly noted that, “[u]nder Texas law, a finding by the court that [KS] is the alter ego of [Gruppe] permits the Court ‘to disregard the corporate fiction and pierce the corporate veil, thereby attributing [Gruppe’s] infringing conduct to [KS].’” District Court Opinion, slip op. at 42 (citing Gundle Lining Constr. Corp. v. Adams County Asphalt, Inc., 85 F.3d 201, 208 (5th Cir. 1996)). The court noted that “under the alter ego theory, the court may disregard the corporate form ‘where a corporation is organized and operated as a mere tool or business conduit’ for another entity.” Id. at 43 (citing Zahra Spiritual Trust v. United States, 910 F.2d 240, 245 (5th Cir. 1990)). The court went on to list a number of factors typically considered when determining whether an entity is the alter ego of a corporation, noting that resolution of the issue is based on the totality of the circumstances. Stuart v. Spademan, 772 F.2d 1185, 1197 (5th Cir. 1985).

The district court then set forth the evidence that plaintiffs presented to show the alter-ego relationship:

- (1) [KS] and [Gruppe] are both 100% owned by Hans Mueller.

- (2) In 1989, [KS] held itself out as the owner and licensor of the '562 patent but in July of 1990, [Gruppe] held itself out as the owner and licensor, although legal title remained at all times in Hans Mueller.
- (3) The German defendants actively participated in and were represented by counsel in this litigation throughout its history, and all defendants, German and domestic, used the term "Kanal-Mueller" to identify both the German defendants [KS] and the German licensor [Gruppe].

District Court Opinion, slip op. at 44.

The district court concluded that "[t]he evidence does not show that either [KS] or [Gruppe] owned stock in the other at any relevant time. Nor did Insituform present any proof that [KS] and [Gruppe] failed to follow separate corporate formalities. In fact, Insituform does not submit any evidence relevant to the [Stuart] factors listed above. Absent such proof, [KS] cannot be held liable as the alter ego of [Gruppe]." *Id.* at 45. Thus, the district court essentially pointed to a failure of proof on the part of plaintiffs to show that KS was the alter ego of Gruppe.

The district court accurately stated the law with respect to plaintiffs' alter ego theory of induced infringement. Moreover, although plaintiffs attempt to characterize the district court's ruling as an error of law, they do not tell us exactly what legal error the district court committed. For that reason, and because we discern no legal error, we are left to review the district court's factual findings.

The district court accurately summarized the totality of plaintiffs' evidence. On appeal, plaintiffs appear to merely reargue their version of the facts. Indeed, plaintiffs praise the district court for "making no reference whatsoever" to allegedly inadmissible submissions by KS. Given the highly deferential standard of review, we do not disturb either the district court's finding that plaintiffs essentially failed to carry their burden of proof or its ultimate ruling that KS cannot be held liable as the alter ego of Gruppe.

CONCLUSION

In sum, we decide the issues before us as follows:

- (1) Because plaintiffs are not barred from asserting infringement under the doctrine of

equivalents, we affirm the judgment of infringement with respect to Process 1.

(2) We affirm the ruling of the district court joining Insituform Netherlands as a party plaintiff.

(3) We affirm the ruling of the district court joining Giulio Catallo as a party defendant.

(4) We affirm the ruling of the district court with respect to CAT's and Firstliner's inducement of infringement, as well as its ruling with respect to the extent to which CAT and Firstliner instructed their licensees to use infringing Process 1.

(5) We vacate the outstanding award of damages and remand to the district court for (i) a determination of the factual issue of when defendants stopped using Process 1 and began using Process 2, and (ii) a calculation of the quantum of damages based upon that determination.

(6) We vacate the district court's finding of willful infringement and remand for reconsideration in light of our en banc decision in Knorr-Bremse.

(7) On plaintiffs' cross-appeal, we affirm the ruling of the district court declining to hold KS vicariously liable to plaintiffs under an alter-ego theory of induced infringement.

COSTS

Each party shall bear its own costs.

AFFIRMED-IN-PART, VACATED-IN-PART, and REMANDED

United States Court of Appeals for the Federal Circuit

99-1584, 00-1005

INSITUFORM TECHNOLOGIES, INC.,
INSITUFORM (NETHERLANDS) B.V.,
and INSITUFORM GULF SOUTH, INC.,

Plaintiffs-Cross Appellants,

v.

CAT CONTRACTING, INC.,
FIRSTLINER U.S.A., INC., and GIULIO CATALLO,

Defendants-Appellants,

and

MICHIGAN SEWER CONSTRUCTION COMPANY,

Defendant-Appellant,

and

KANAL SANIERUNG HANS MUELLER GmbH & CO. KG,

Defendant-Appellee.

Before MAYER, Chief Judge, MICHEL, and SCHALL, Circuit Judges.

PER CURIAM

ORDER

The Supreme Court vacated the judgment in this case, Insituform Technologies, Inc. v. CAT Contracting, Inc., 10 Fed. Appx. 871 (Fed. Cir. 2001) (non-precedential decision), and remanded the case to this court on June 3, 2002, “for further consideration in light of Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.” Insituform Techs., Inc. v. CAT Contracting, Inc., 535 U.S. 1108 (2002). Following the Supreme Court’s decision in Festo, this court issued a second en banc Festo decision. See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359 (Fed. Cir. 2003). Following that decision, we requested that the parties submit briefs addressing the consequences of both the Supreme Court’s decision in Festo and this court’s subsequent en banc decision for this case.

After considering the parties’ submissions, we vacated the judgment of the United States District Court for the Southern District of Texas awarding damages to plaintiffs for infringement of United

States Patent No. 4,366,012, Insituform Techs., Inc. v. Cat Contracting, Inc., No. H-90-1690, slip op. (S.D. Tex. Aug. 31, 1999), and remanded the case for further proceedings in light of the Festo cases. Insituform Techs., Inc. v. CAT Contracting, Inc., 87 Fed. Appx. 180 (Fed. Cir. 2004) (nonprecedential order). After considering the subsequent Petition for Rehearing and Response, we conclude that the case may be decided on the merits based on the record now before us.

Accordingly,

IT IS ORDERED THAT

(1) The Petition for Rehearing is granted.

(2) The Order vacating the district court's judgment and remanding for further proceedings is hereby withdrawn and the decision attached to this Order is substituted in its place.

FOR THE COURT

Date

Jan Horbaly

Clerk

[1] The district court ruled that neither Insituform Gulf nor ITI had standing to sue. Plaintiffs do not appeal that ruling.

[2] In Insituform II, we referred to KS as "KM."

[3] Firstliner's Process 2 is no longer before us, it having been determined that it does not infringe claim 1 either literally or under the doctrine of equivalents.

[4] As noted above, Insituform North America, Inc. is no longer a party to the suit.

[5] Because we affirm the district court's ruling that Insituform Netherlands was properly joined as a party, we need not address plaintiffs' additional argument on appeal related to adding Insituform North American, Inc. as a party.

[6] At that time, the court made no specific finding regarding the actual date of the switch as both Process 1 and 2 were found to be infringing.